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ABSTRACT

Several demographic and psychosocial variables affect assessment and treatment of chronic pain patients. The variables include demographic characteristics, life styles, family constellations, job conditions, financial status, support networks, and leisure activities. In recent years clinics and programs have emerged in a variety of configurations. Programs vary according to geography, agency, size, and training emphasis. Patients vary systematically according to program type on demographics, characteristics of pain problems, treatment history, and employment and compensation status. Findings regarding ethnic differences in responding to pain were reported among Black, Italian, Jewish, Irish, and Puerto Rican patients. While intellectual and personality variables bear some relationship to reported pain, the relationships are complex and equivocal. Several studies report Minnesota Multiphasic Personality Inventory (MMPI) results. Although the MMPI does not reliably differentiate "functional" from "organic" or predict success versus failure among pain patients, it does reflect distress level, chronicity, and adaptation to the condition. Chronic pain is an extremely complex phenomenon. Pain experience and pain behaviors are affected by interacting physical, medical, psychological, vocational, and social conditions. All these factors and their cumulative effects should be considered in order to treat chronic pain patients effectively. (Author/ABL)

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DEMOGRAPHIC AND PSYCHO-SOCIAL IMPLICATIONS FOR ASSESSMENT AND TREATMENT OF CHRONIC PAIN PATIENTS

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ABSTRACT

Several demographic and psycho-social variables affect assessment and treatment of chronic pain patients. The variables include demographic characteristics, life styles, family constellations, job conditions, financial status, support networks, and leisure activities.

In recent years clinics and programs have emerged in a variety of configurations. Programs vary according to geography, agency, size, and training emphasis. Patients vary systematically according to program type on demographics, characteristics of pain problems, treatment history, and employment and compensation status.

Findings regarding ethnic differences in responding to pain were reported among Black, Italian, Jewish, Irish, and Puerto Rican patients. While intellectual and personality variables bear some relationship to reported pain, the relationships are complex and equivocal.

Several studies reporting MMPI results were cited. Although the instrument does not reliably differentiate "functional" from "organic" or predict succes versus failure among pain patients, it does reflect distress level, chronicity, and adaptation to the condition.

Chronic pain is an extremely complex phenomenon. Both pain experience and pain behaviors are affected by interacting physical, medical, psychological, vocational and social conditions. In order to treat chronic pain patients effectively, all these factors and their cumulative effects on the patients must be carefully considered.

Demographic and Psycho-social Implications

for Assessment and Treatment of Chronic Pain Patients

Dwight Auvenshine, Ph.D.

Assessment and treatment issues related to psychosocial variables traditionally have been a major consideration in professional psychology. In that regard, behavioral medicine, health psychology, and particularly for our purposes here, pain management compares with the more traditional form of psychological treatment. Psychosocial factors including demographic characteristics, life style, family constellation, job conditions, financial status, support network, and leisure activities all impact the chronic pain patient. Because the patient is so vulnerable, some of these may become crucial to the patient as he or she attempts to manage a life situation made difficult by the presence of chronic pain. The purpose of my comments for the next few minutes is to identify a few of the most salient psychosocial conditions of chronic pain patients as they are reflected in the literature.

As we think about pain management programs it is important that we realize that each program is unique in some ways regarding mission, clientele, types of modalities, staffing patterns, selection criteria, admission policies and procedures, regulations concerning medication usage, in-out patient clinic treatment versus comprehensive and intensive full-time programmed activities, and usual length of treatment. Holzman, Rudy, Gerber, Turk, Sanders, Zimmerman, and Kerns (1984) compared chronic pain patient groups from four different treatment programs on demographic variables, characteristics of the pain problems, and treatment history. The four programs included in the study were selected to represent differences on several important dimensions: Geography, VA/non VA, university affiliated medical schools with strong training emphases, and large and small hospitals. (West Haven, CT, VAMC; Long Beach VAMC Un. of Utah MC; Hartford CT, and Mt. Sinai Hospital)

Several variables were considered in the comparison including categories of demographics, characteristics of pain problems, treatment history, and employment and compensation status.

The findings were generally consistent with expectations. The V.A. patients were mostly male (94%) as compared to mostly females (34% males) at the non-VA settings. A larger percentage of the non-VA patients were married. For all programs, the largest number of patients were classified as back-pain. More non-VA patients than VA patients had visited a chiropractor or acupuncturist prior to seeking treatment in the current program. More frequent use was made of physical therapy in the VA settings than in to non-VA settings. Interestingly, the groups did not differ significantly with regard to prior psychiatric or psychological treatment. The majority of all groups were unemployed (not statistically analyzed) with a range of 65% to 88%. Significantly more VA patients were receiving some compensation related to pain condition than were non-VA patients. Mean age of VA patients was significantly higher than for non-VA patients. Duration of pain was comparable for three groups, but much less for a community hospital sample. Educational levels among the groups were not significantly different. This study serves as a good example of the variability of pain management according to program location, nature, and clientele.

Ethnicity has been reported as a significant psychosocial category, particularly with regard to reporting the pain experience. Lipton and Marback (1984) examined differences among five ethnic groups, Black, Irish, Italian, Jewish, and Puerto Rican. These were patients with facial pain. The authors used a 35-item scale to measure the pain experience. Of the 35 items on the instrument only 12 differentiated the groups. These items generally concerned emotionality (stoicism vs. expressiveness) and interference attributed to

pain. On these dimensions Black, Italian, and Jewish patients were most similar to each other. Irish and Puerto Rican patients appeared distinct both from the other groups and each other. The authors pointed out that the more acculturated a person is in the American Society the less the ethnic ties. Furthermore, the more educated, affluent, and occupationally advantaged members of ethnic groups differ in health practices from their lower socio-economic counterparts. Health behaviors of higher socioeconomic classes tend to be more similar across ethnic groups than behaviors of lower class members. Although a strong relationship was not found, interethnic differences were reported on effects of pain on appetite, beliefs regarding futility of complaining, and emotionality in discussing pain with others.

The authors cited most influential factors for each ethnic group. For Blacks, social assimilation and medical acculturation appeared to be most influential. These characteristics were reflected in dependency on lay advice, by other members of their group, emotional and expressive responses to pain, and disturbance in daily functioning.

For Irish patients, "friendship solidarity" or belonging to a close knit group was very important. The behavioral effect was non-emotionally expressive pain response leading to a disruption in performing usual activities.

For Italian patients, duration of pain was the best predictor of the effects of pain. Duration was found to be positively related to both emotional/expressive responses and of disruption in performing usual activities.

Among Jewish patients, level of psychological distress was found to be predictive of emotionally expressive responses and interference in daily functioning.

For Puerto Rican patients, level of distress, degree of social assimilation and medical acculturation, and duration of pain were all found to be related to emotional pain responses and disruption of daily activities.

Richards, Meredith, Nepomuceno, Fine, and Bennett (1980) examined the medical, demographic, psychological, and familial social data among a group of 200 cord injured patients (of whom 75 had completed MMPI). They observed that "chronic pain, if not caused by, is often perpetuated by a variety of psycho-social factors." The comment that to approach assessment and treatment with other than a holistic approach is to reduce the likelihood of successful outcome. Chronic pain is highly complex and cannot be explained or treated in strictly medical-neurophysiological terms because many psycho-social factors are so intimately involved in both its etiology and maintenance.

The authors found no significant (t test) differences among persons experiencing pain and those not experiencing pain according to IQ (WAIS V, P, or FS), grade level achievement in arithmetic and reading (Peabody Individual Achievement Test), and the whole range of MMPI scores. Stepwise multiple regression analysis revealed that:

1) The best combination of predictors of pain (versus no pain) was age, motivational level and post-injury work history ($r = .148$).

2) The best predictor of severity of pain was combination of age, verbal IQ, MMPI scale 7, and global psycho-social rating ($r = .432$).

3) The best predictor of later onset of pain was the MMPI F-K index, clinical ratings of distress, and pre-injury work history ($r = .193$).

4) The best combination of predictors for interference with activities of daily living were age, WAIS-V, MMPI-2, clinical rating of distress (based on MMPI-2 and 7).

To summarize this study, persons with higher reported levels of pain experience and who were most hindered in ADL were older, brighter, more anxious, more depressed, more distressed and were in more negative psycho-social environments.

Garron and Leavitt (1979) examined the relationship (by stepwise multivariate analysis) between (4) demographic and (5) affective variables and (8) attributes of low back pain. They demographic variables were age, sex, race, and education. The affective variables were state anxiety, trait anxiety, hostility, anxiety and depression. Seven of the eight attributes of low back pain were from the factorially derived Low Back Pain Questionnaire. The other was a self estimate of pain intensity. The authors summarized the results of the study in four points:

(1) The effects of the demographic variables, were both unsystematic and small.

(2) The effects of the psychological variables, even when systematic, were small.

(3) Among the psychological variables, anxiety is related to the pain variables but depression was not.

(4) The effect of hostility was systematically inverse to the pain experience (i.e., the less the hostility, the more the pain).

Several studies have included the MMPI as a major instrument in the psychometric assessments of chronic pain patients. Particularly, attempts have been made to differentiate patients with organic bases for the pain from persons who have heavy functional components. Also, the MMPI has been used to diagnose degree of chronicity and predict successful treatment in pain management programs. Some representative reports along these lines are briefly cited here.

Love and Peck (1987) in a review article point out that findings regarding differentiating "organic" from "psychogenic" pain among low back pain (LBP) patients generally have been unsuccessful. The authors indicate that the MMPI "conversion V" (scales 1, 2, & 3) has been used to substantiate diagnoses of psychogenic pain. They point out that this profile component is characteristic of psychogenic LBP patients, but question that it "represents a

picture of non-organic pathology." They cite additional sources documenting the unreliability of functional versus organic discrimination by the MMPI conversion V scores (McCreary, Turner, & Dawson, 1977; Rosen, Frymoyer & Clements, 1980; Schwartz & Drupp, 1971; Waddell, McCulloch, Kummell & Veunner, 1980). One interpretation of this failure to distinguish functionals from organics is that although both groups respond to the MMPI (1, 2, 3 scales) items in a deviant direction, they do so for different reasons or from different sets of dynamics.

In their review article Love and Peck (1987) reported several studies (Armentrout, Moore, Parker, Hewett, & Felx, 1982; Naliboff, Cohen, & Yellin, 1982; Pope, Rosen, Wilder, & Frymoyer, 1980; Rosen, Frymoyer, & Clements, 1980) that indicate a positive relationship between degree and chronicity of disability and MMPI elevations. The authors observed that elevations of 1, 2, and 3 are likely to reflect affective disturbance while elevations of other scales indicate a more complicated disorder. The cause-effect relationship regarding psychological disturbance and severity of impairment is complex. Does functional limitation cause psychological disturbance or vice versa? The relationship is not a simple direct one, but is interactive and cyclical. Furthermore, the statistical relationship between groups is complicated by individual differences in motivation and adjustment. Certainly, for the purpose of practice, the functional-organic distinction with the MMPI is contraindicated by both empirical findings and clinical experience.

Schmidt and Wallace (1982) in a factor analytic study of MMPI scale scores of LBP patients found three distinct factors: (1) symptom severity, (2) anger and aggression, and (3) psychogenic components. From this study they also concluded that elevated scores on scales 1 and 3 can be obtained for reasons other than the ones usually attributed to those scales.

Maruta, Swanson, & Swenson (1979) compared successful and unsuccessful responders to a chronic pain management program. Differences between the two groups were found on several variables. Statistical (two-tailed t) tests reflected significant differences on duration of pain, loss of work time, pain-related operations, number of patients using drugs, patients receiving compensation, and subjective pain ratings. Some variables that did not significantly differentiate the groups were age, sex, marital status, number of drugs being taken, pain location, diagnosis, and MMPI scale scores. From the empirical data gathered the authors constructed a seven-item rating scale to assist in establishing programs for success. The items included were duration of pain, loss of work time, pain related operations, pain level, medication status, and MMPI scales 1 and 3. This instrument effectively differentiated between the groups for the subjects included in this study.

At least two other studies (Aronoff & Evans, 1982; Hamburgen, Jennings, Maruta, & Swanson, 1985) have used the Maruta, Swanson, and Swenson (1979) model to predict treatment outcomes. In each instance, the researchers found that the instrument did not effectively predict successful versus unsuccessful outcomes for patients in chronic pain programs.

In another outcome study and using the MMPI, Roberts and Reinhardt compared three groups of patients; treated, rejected, and refused treatment. Pre-treatment MMPI scores among the groups were not significantly different. All groups had elevated 1 and 3 scale scores. For the treatment group, post-treatment assessment revealed decreased 1 and 3 scale scores, increased ego strength scores, and the profiles were essentially normal. These results were obtained in a pain management program not designed to modify personality. These authors suggest that the conversion V pattern may be a response to chronic pain rather than the conversion V dynamics causing the problem.

In pain management programs, a traditional and accepted belief exists that secondary gains either expected or present serve as disincentives to rehabilitation. Secondary gains take many forms including attention, sympathy, excuse from aversive tasks, and financial rewards. Applied to chronic pain patients this idea suggests that persons who have claims pending for financial benefits (workers' compensation, DIB, SSI, or private insurance) are not motivated to cope effectively with their chronic pain. The pain is a resource to be exploited instrumental to obtaining benefits. Contrary to this widely accepted notion two recent studies (Dworkin, 1985; Melzack, Katz, & Jeans, 1985) have cast doubts on its validity. Although the results are mixed regarding employment, litigation, and compensation we now have some reason to believe that the expression "compensation neurosis" is unwarranted for many of our pain patients.

In conclusion I have tried to communicate the complexity of the network of psycho-social variables in understanding the dynamics of the development and maintenance of chronic pain. I commented on the great diversity among treatment programs regarding mission, clientele, selection criteria, admission procedures, and treatment modalities. I summarized some findings regarding ethnic differences and demographic and affective variables. Several studies using the MMPI were summarized. Generally, the MMPI does not provide valid indicators that differentiates "organic" from "psychogenic" patients, or those patients who succeed in pain management programs from those who don't. MMPI results can help to identify the more chronic and distressed patients. Although the MMPI is by far the most widely used assessment instrument in pain management programs, the results of its use diagnostically so far have been disappointing. Furthermore, other outcome prediction models based on demographic and psycho-social variables have not been very successful either.

The most exciting and positive aspect of my studies and preparation for this presentation is the volume of relevant theoretical and clinical material appearing in scholarly journals. This productivity including both quality and quantity of research output offers a great deal of encouragement for professional specialists as well as and the ultimate recipients, chronic pain patients.

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